

Archaeological Survey

SOLANA RIDGE
+/- 250 ACRES
SAN ANTONIO, TEXAS

FROST GEOSCIENCES, INC. PROJECT NO.: FGS-E09140
AUGUST 31, 2009

Prepared exclusively for

DR Horton
211 N. Loop 1604 East, Suite #130
San Antonio, Texas 78232

Frost GeoSciences

Construction Materials • Forensics
Environmental • Geotechnical

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RESTRICTED CULTURAL INFORMATION

According to the Texas Administrative Code: TITLE 13: CULTURAL RESOURCES, PART 2, TEXAS HISTORICAL COMMISSION, CHAPTER 24, RESTRICTED CULTURAL RESOURCE INFORMATION, RULE §24.3 Scope: "The intent of these rules is to restrict access to specific cultural resource data to those individuals that have a legitimate scientific or legal interest in obtaining and using that information. The intent is not to limit the public's use of all information that the commission has within its libraries, files, documents, and the THSA database; however, as provided for in §442.007(f) of the Texas Government Code, and §191.004(a-c) of the Texas Natural Resources Code, the commission can determine what cultural resource information is sensitive and what information needs to be restricted due to potential dangers to those resources. The cultural resources that the commission considers to be at risk include Archaeological sites, shipwrecks, certain historic structures and engineering features. Public disclosure of any information relating to the location or character of these resources would increase their risk of harm, theft or destruction. Therefore, this information is defined as restricted and is not subject to public disclosure under state law. Restrictions on who can obtain data and how the data are used is within the legal authority of the commission, and can be defined through the rule-making authority of the commission."

As a result, it must be noted that the information contained within this report cannot be made available to the general public and additional copies of this report and the attached maps are not permissible without the written consent of Frost GeoSciences, Inc. and Abasolo Archaeological Consultants.

1.0 ABSTRACT

In general accordance with the proposal accepted by DR Horton, dated July 23, 2009, and with an emailed endorsement and authorization to proceed on July 23, 2009, by DR Horton, Frost GeoSciences, Inc. (FGS) was authorized to perform a Phase I Archaeological Survey for Solana Ridge conducted during August 2009.

Frost GeoSciences, Inc. (FGS) in conjunction with Abasolo Archaeological Consultants (AAC) conducted a Phase I archaeological survey on approximately 250 acres that remain undeveloped within the Solana Ridge property, southwest San Antonio, Bexar County, Texas. Solana Ridge is a D.R. Horton development that is nearly 50% complete with streets, houses, and an activity center. The property surrounding the existing development was the subject of this archaeological survey. The surface across much of the property is littered with Uvalde Gravels. Evidence of occasional exploitation of high quality chert for chipped stone tools in the prehistoric past was observed in the form of an occasional flake, core, or biface. One concentrated area of chipping debris consisting of flakes, cores, and biface discards, and measuring approximately 100 meters in diameter, was designated as site 4IBX1820. This concentration was on the crest and southern slopes of the highest hill on the property overlooking the Medio Creek valley. The cultural material was restricted to the surface and no temporally diagnostic artifacts were observed. No further archaeological work is recommended.

* - Courtesy Abasolo Archaeological Consultants

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2.0 GEOLOGIC MAP REVIEW

The approximately 250 acre tract is on the west side of Loop 410 and just south of Ray Ellison Drive. Geologically, it falls in an area overlying the Navarro Group and Marlbrook Marl ("upper Taylor marl") undivided (Kknm) and the Midway Group (Emi). The Navarro Group and Marlbrook Marl ("upper Taylor marl") undivided, is made up of two parts. The upper part consists of marl, clay, sandstone, and siltstone. The marl and clay are typically glauconitic and contain concretions of limonite and siderite. The sandstone portion is fine-grained and the siltstone portion is yellow-brown, with concretions of hard bluish-gray siliceous limestone 2-10' in diameter. Sandstone beds have little lateral continuity, becoming more abundant in the western portions. This formation's thickness can be up to 580'. The lower part consists of clay. It is usually montmorillonitic, unctuous, greenish-gray to brownish-gray in color. It typically weathers to a very thick, black, clayey soil that can reach a thickness of +/- 400 feet. Total thickness for this portion reaches +/- 980'.

The Midway Group (Emi) consists of clay and sand. The clay is light gray to dark gray, silty and sandy becoming more prominent upward (Wilcox Sand), grading to mudstone and sand in the lower section. The sand is glauconitic to very glauconitic in the lower part, argillaceous, and poorly sorted. Phosphatic nodules and pebbles are common in the lowermost part. The Midway Group weathers to yellow to yellowish-brown soil. Overall thickness ranges from 100 to 400 feet. A copy of the Geologic Atlas of Texas, San Antonio Sheet (1982) indicating the location of the Site and the geologic formations is included in this report in Figure 3.

3.0 SOILS AND SETTING

According to the United States Department of Agricultural (USDA) Natural Resources Conservation Service (NRCS) Soil Survey for Bexar County, Texas, the Site is located on the Houston Black Clay.

The Houston Black Clay (HuB, HuC, and HuD) consists of clayey soils that are deep, dark gray to black and calcareous. The surface layer is very dark gray to black, mildly alkaline, and about 38 inches thick. This layer has weak, very fine, blocky structure in the uppermost 8 inches. Below that depth, it has moderate, fine, and very fine, blocky structure and is extremely firm but crumbly when moist. This layer cracks when dry and swells when wet. The subsurface layer is about 12 inches thick. It is gray or dark gray clay and has some grayish brown or olive brown streaks. It has moderate, medium blocky structure and is extremely firm when moist. Like the surface layer, this layer cracks when dry and swells when wet. The underlying material is very pale brown, calcareous clay or marl and has mottles of olive brown and gray. There are some shale fragments and gypsum crystals. The Houston Black Clay has slow to rapid surface drainage. Internal drainage is slow to none. Rainfall is very rapidly absorbed when the soil is dry and cracked, but practically all of it runs off after the water content of the soil has reached field capacity. Most areas lack a permanent water table. The capacity to hold water is good. Water erosion is a hazard.

A copy of the Aerial Photograph from the U.S.D.A. Soil Survey of Bexar County, Texas indicating the location of the Site and the soil types is included in this report on Figure 4 in Appendix A.

* - Courtesy Abasolo Archaeological Consultants

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5.0 ARCHAEOLOGICAL BACKGROUND

5.1 Chronological Overview

The nature of historic and prehistoric cultural resources in southern Bexar County is poorly known, especially when compared to intensive studies done across large parts of northern San Antonio. While the archaeological record of southeastern Bexar County fits into the regional cultural framework extending back at least 11,200 years (e.g., McGraw and Hindes 1987; Hester 2004), only a relatively small number of archaeological sites have been documented in the area. Previous archaeological surveys, including those by AAC (e.g., Hester and Shafer 2006; Shafer 2005; Shafer and Hester 2004a; 2004b; 2006) have documented prehistoric Native American campsites as well as areas of lithic resource exploitation in the Blackland prairie. Most campsites are located along the major streams, while lithic procurement sites occur in the uplands along minor streams. There is a moderate to high probability that one of these types of sites will occur in the survey area. Lithic procurement types of sites and localities are marked by debris from stone tool manufacture, and often spent tools. While lithic resource sites are anticipated within the project area, there is a low potential for a prehistoric campsites. Campsites can be identified by the presence of concentrated areas of hearthstones (fire-cracked rock), chipped stone manufacturing debris, and discarded tools.

5.2 Archaeological Sites in the Vicinity

The Solana Ridge project area overlooks the Medio Creek valley to the west. A fair amount of archaeological work has been done along this drainage, including a survey by McGraw (1977) that recorded 15 sites upstream, in an area north of Highway 90. On the Medina Base Annex across from the project area, surveys have been done by the Center for Archaeological Research, The University of Texas at San Antonio (Nickels et al. 1997). Notable sites nearest to Solana Ridge include 41BX1091, described as a "lithic quarry" and very similar to site 41BX1820 at Solana Ridge, as reported below.

Two other sites in the eastern part of the Medina Base Annex are also reported as "lithic quarries" (41BX1089, 41BX1088). Three "open campsites" were also recorded, marked by flakes and burned rock, but no diagnostic artifacts (Texas Archeological Site Atlas). Only a half-mile south of the Solana Ridge southern boundary, Shafer and Hester (2005) carried out an archaeological survey of the Carmona Hills property.

Further south of the project area, on the east side of Medio Creek and the near intersection of Loop 410 and IH 35, archaeologists from the Fort Worth District, U.S. Army Corps of Engineers, recorded site 41BX1131 (Texas Archeological Site Atlas). It is worthy of special note since it is in the same type of upland setting as Solana Ridge. The site was described as a prehistoric occupation, of unknown age, with stone tool debris and fire-cracked rocks.

* - Courtesy Abasolo Archaeological Consultants

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6.0 RESEARCH DESIGN

The research design called for the following tasks to be completed:

- A pedestrian survey of the high probability areas across the entire approximately 250 acres. Any Archaeological material encountered would be located using hand-held GPS units and plotted on the project map.
- Backhoe testing would be performed only if necessary to examine for and assess any buried components that might be encountered. This is the quickest and most efficient method of testing for subsurface archaeological deposits.
- Diagnostic artifacts encountered during the course of the survey or testing were to be digitally photographed for recording. A no collection policy was followed unless unusual finds are encountered.

7.0 SURVEY RESULTS

Our survey found that the surface throughout most of the property was littered with Uvalde Gravels (Figs. 5 and 6), a Pliocene phenomenon that left deposits of gravel composed mostly of chert with some admixture of chalcedony and quartzite, associated with the upland prairie soils east and south of the Balcones Escarpment (Byrd 1971). The composition of the gravels is dependent, in part, on the composition of the harder rocks in donor formations, in this case, it was primarily chert from the eroded facies of the Edwards Plateau, but rocks of more distant origin, such as quartzite and orthoquartzite can occur.

The highest knoll on the property contained the highest density of quarry refuse, so dense in fact that this was given site number. A TexSite form was submitted to obtain a state trinomial designation for the site. The trinomial designation for the site is 4IBX1820.

4IBX1820

Site 4IBX1820 is a quarry site, or resource procurement area, located in Unit 9 of the D. R. Horton Solana Ridge development. The site area covers at least two acres on top of the knoll and extended down the south and southwest sides. The vegetation cover at the site consist of the thorny brush and cacti previous described with bare patches of exposed Uvalde Gravels (Fig. 8A). The full extent of the site is arbitrary as it was defined on the basis of density of cores and flakes; the density decreased on the slopes of the knoll defined the extent, but previous development prevented us from accurately defining the full extent of the site.

The surface in the site area contains a dense scatter of Uvalde Gravels with chert flakes, cores, and an occasional early stage biface failure (Fig. 10). No diagnostic artifacts were noted within the site area to provide an indication of chronological time it was exploited, but the proximal end of a Guadalupe Biface (Turner and Hester 1993:256) was observed (Fig. 10 third from left).

* - Courtesy Abasolo Archaeological Consultants

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Isolated Finds

Exposures of Uvalde Gravels were extensive throughout the project area, but were especially so in the northern, central, and southwestern portions. Sizes of the chert nodules varied as did the quality. Prehistoric utilization of the gravels was observed in the northern, central, and southwestern areas in the form of isolated finds of cortex or secondary cortex flake removed by hard-hammer percussion (Fig. 8A), cores from which several flakes were struck (Fig. 8B, C), and cobbles tested for quality (Fig. 8D). Figure 1 shows areas in which isolated finds were more concentrated. Bifaces exhibiting early stage reduction were observed during the survey (Fig. 9A-C), indicating that ancient flintknappers utilized the exposures as quarry areas and on-site blank manufacture. Blanks are early stage bifaces that can be shaped into any number of formal tools. An occasional pent tool or tool fragment was also observed (Figs. 11 and 12).

* - Courtesy Abasolo Archaeological Consultants

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8.0 SUMMARY AND RECOMMENDATIONS

An archaeological survey of 250 acres of undeveloped property has been carried out at Solana Ridge, a development by D. R. Horton. Though there are recent stock tanks, there is no dependable water source except, perhaps, for a small section Medio Creek in the southwest corner. The area has likely been cleared in the past, perhaps for farming and ranching. After clearing, and later, when fields or pastures were abandoned, thickets of second-growth plants have choked much of this part of the Solana Ridge property. Most notable is white brush, spiny hackberry, and mesquite. As described in this report, Uvalde Gravel deposits, containing nodules of various sizes, were characteristic of exposed surfaces. Occasional indications of ancient lithic procurement activity were noted, in the form of large cortex flakes and crudely shaped, unfinished biface blanks. This is a pattern common in this part of Bexar County (see Shafer and Hester 2005). At the highest elevation on the Solana Ridge development, a small hill or knoll rising to 820 feet above sea level, a distinct concentration of stone-chipping debris was found. This has been designated as Site 4IBX1820. Excavations or detailed surface mapping of the site would add nothing new or significant to the regional archaeological record.

Enough of the landscape along the Medio Creek valley has been sampled archaeologically combined with the Carmona Hills development immediately to the south (Shafer and Hester 2006) to assess with the archaeological potential of the Medio Creek upland margins. Prehistoric utilization of the Uvalde Gravels along the valley wall can be anticipated. Rare broken tools (proximal end of broken adzes) also signify exploitation of resources other than for raw material. The only possible diagnostic artifact found was the proximal end of a Guadalupe tool, an Early Archaic adze style. Presumably the chert and other natural resources were intermittently used throughout prehistory. People undoubtedly passed over these hills off and on for nearly 10,000 years.

The archaeological significance of this lithic resource zone is very low and does not merit further archaeological attention. While it is important to note any evidence of prehistoric utilization, the research potential is negligible. The only area along the Medio Creek Valley that should garner archaeological attention is within the valley itself and on elevated landforms immediately bordering the valley. Medio Creek presently is intermittent, but may have had a constant flow during mesic intervals.

Site 4IBX1820 is a prehistory quarry or resource procurement site where Uvalde Gravel chert was tested for quality and high quality cores were acquired for the production of stone tools. The gravels occur in Houston black clay. There is no stratigraphic integrity to the cultural material, and the site has low potential for future research. No further archaeological investigations are necessary at this site or on the Solana Hills Development.

* - Courtesy Abasolo Archaeological Consultants

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* - Courtesy Abasolo Archaeological Consultants

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* - Courtesy Abasolo Archaeological Consultants

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FIGURES

Figure 1: Topographic Map

Figure 2: Aerial Overview

Figure 3: Geologic Map

Figure 4: Soils Map

Figure 5: Site Visit Photographs*

Figure 6: Site Visit Photographs*

Figure 7: Site Visit Photographs*

Figure 8: Site Visit Photographs – 4IBX1820*

Figure 9: Site Visit Photographs – Isolated Finds*

Figure 10: Site Visit Photographs – Biface Blank Rejects*

Figure 11: Site Visit Photographs – Tools and Tool Fragments*

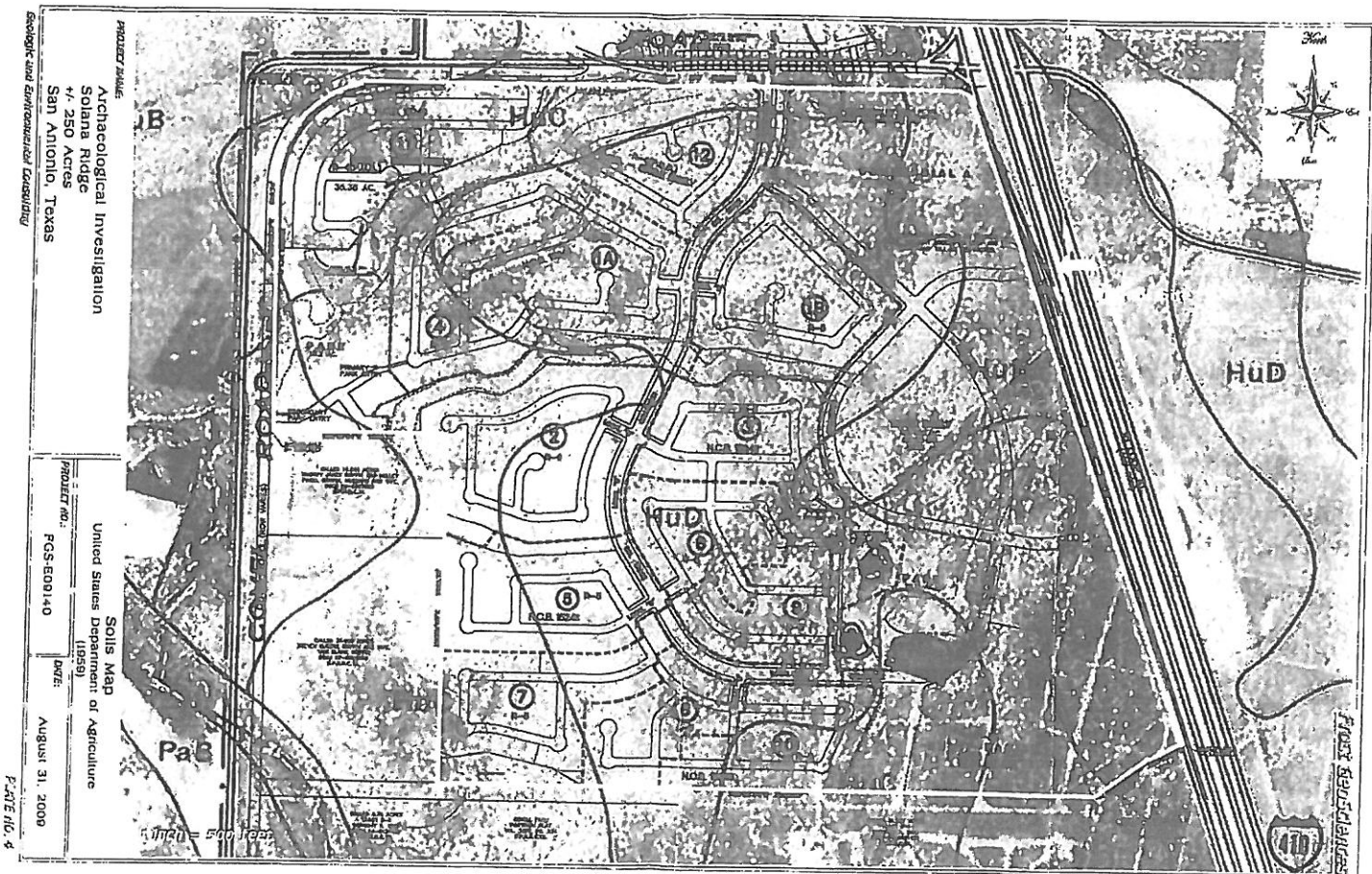
Figure 12: Site Visit Photographs – Isolated Find*

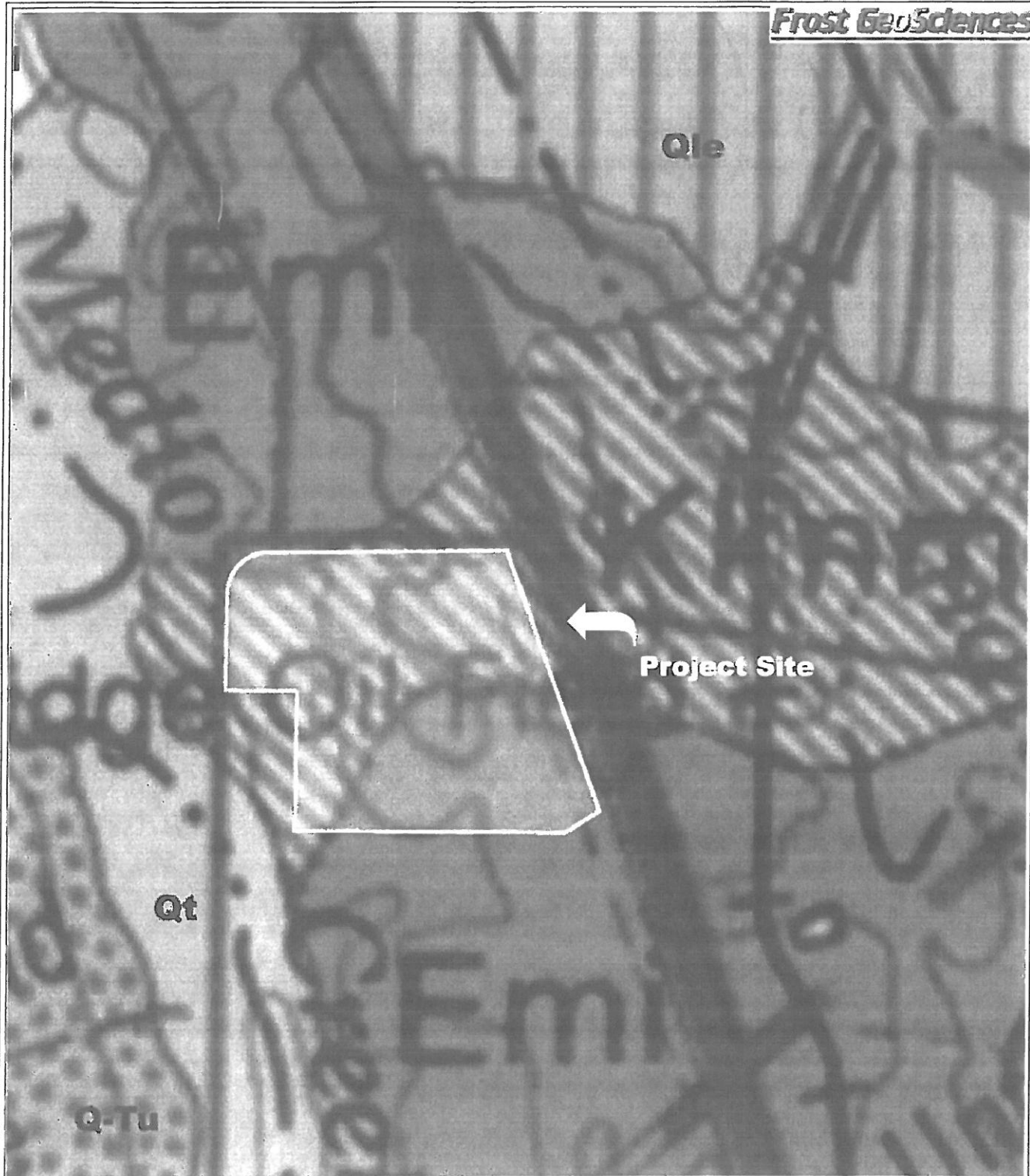
* - Courtesy Abasolo Archaeological Consultants

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IMAGE RESTRICTED

PROJECT NAME: Archaeological Investigation Solana Ridge +/- 250 Acres San Antonio, Texas		U.S.G.S. 7.5 Minute Quadrangle Map Macdona, Texas Sheet (1991)	
		PROJECT NO.: FGS-E09140	DATE: August 31, 2009





PROJECT NAME:

Archaeological Investigation
Solana Ridge
+/- 250 Acres
San Antonio, Texas

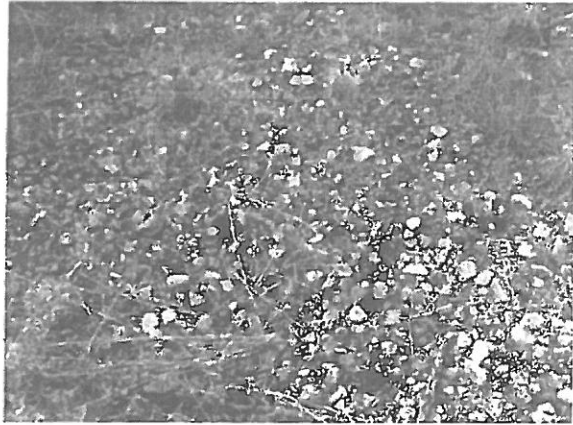
Bureau of Economic Geology
Geologic Atlas of Texas
San Antonio Sheet (1982)

PROJECT NO.:

FGS-E09140

DATE:

August 31, 2009

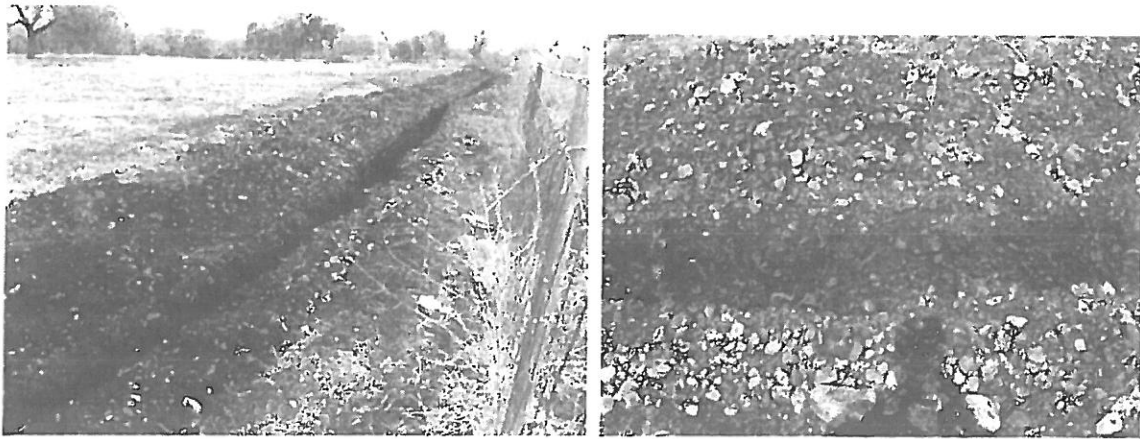


A



B

Figure 5. A, Surface concentration of Uvalde Gravels in the northern portion of the Solana Ridge Development property; B, soil profile in a gully face in the northwestern part of the property. Note the gravelly Houston black clay topsoil.



A

B

Figure 6. A, exposed trench west of the property line illustrating Houston black clay gravelly soil. B, view in the same trench showing the density of Uvalde Gravels in the Houston black clay soil.

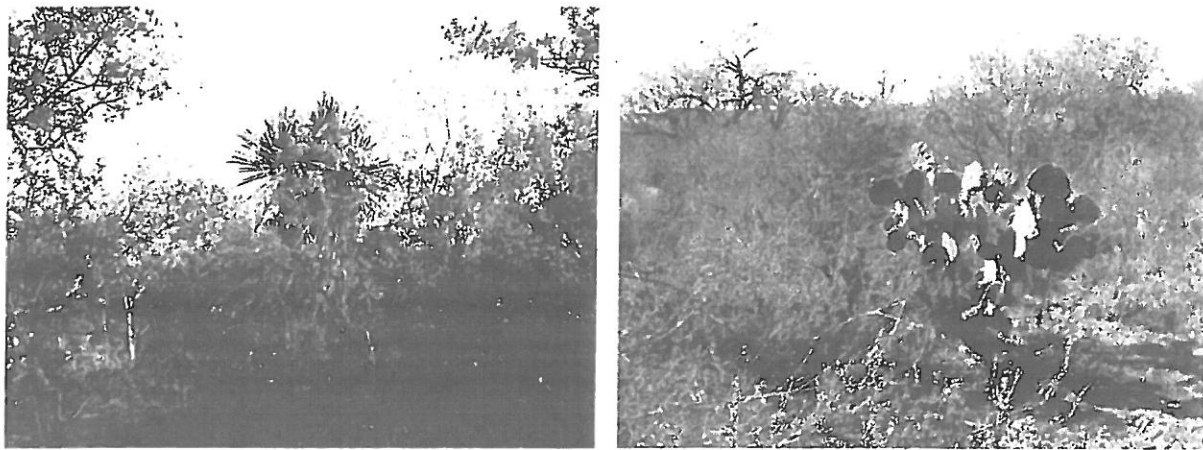


Figure 7. Views of the property showing typical south Texas thorny brush and cacti ground cover.

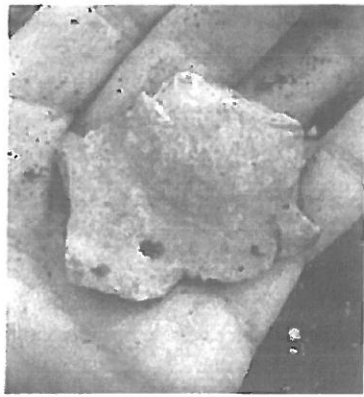


A

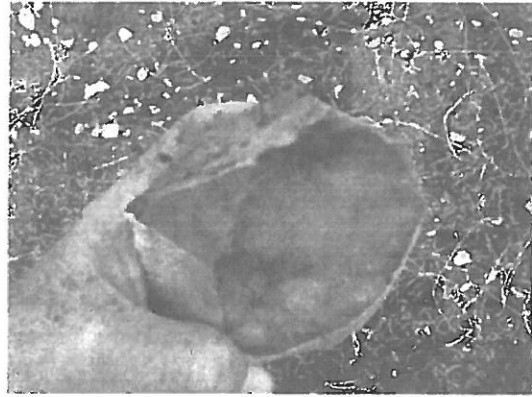


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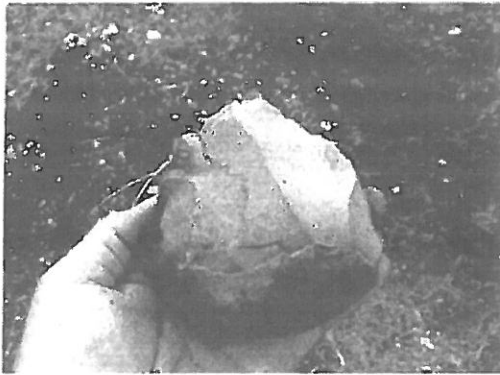
Figure 8. 41BX1820. A, view of the site that shows vegetation cover. B, Exposed Uvalde Gravels and chipped stone debitage.



A



B



C



D

Figure 9. Isolated Finds. A, hard-hammer cortex flake, B, C, cores, D, tested cobble.

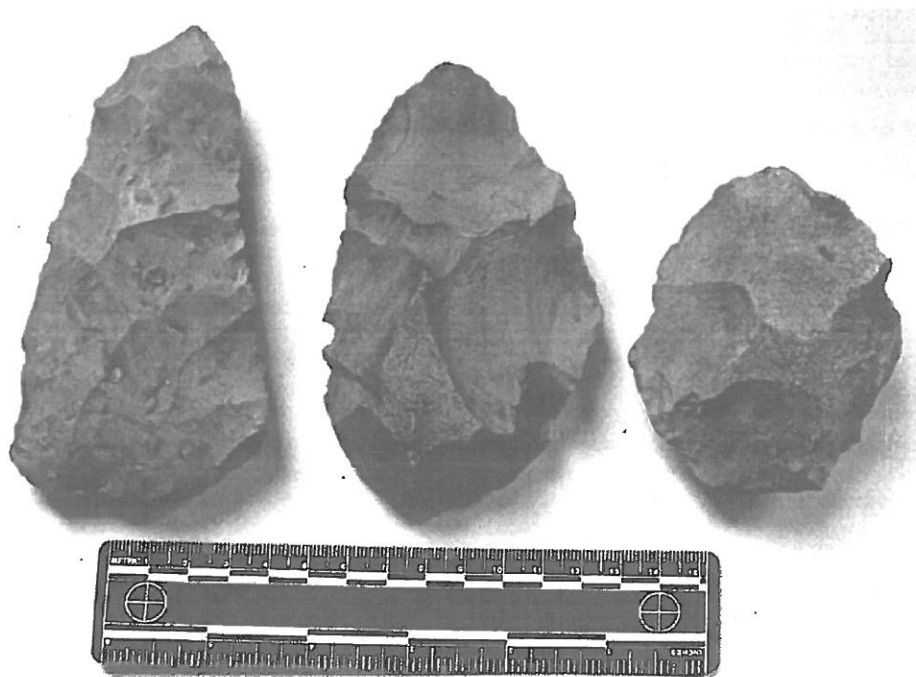


Figure 10. Biface blank rejects. Left: Isolated find; center and right: SR-1 surface.

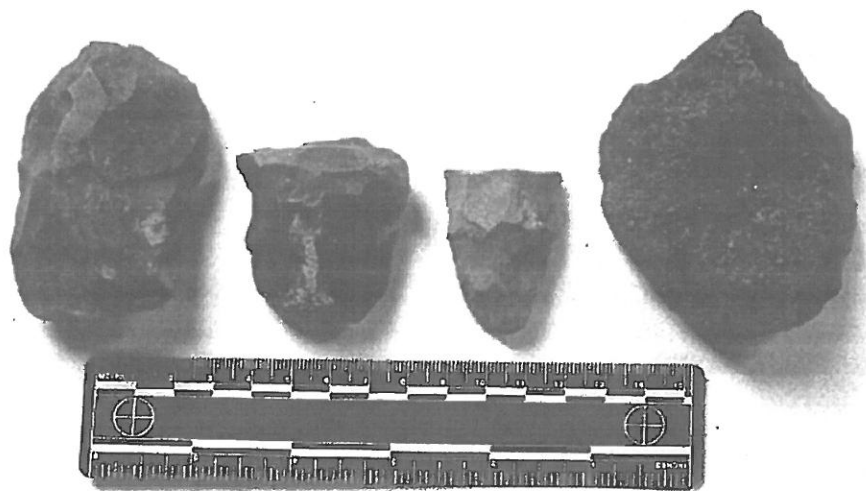


Figure 11. Tools and tool fragments. Broken axe or celt isolated find; proximal end of celt or adze isolated find; C, distal end of Guadalupe tool from SR-1; D, pointed uniface tool isolated find.

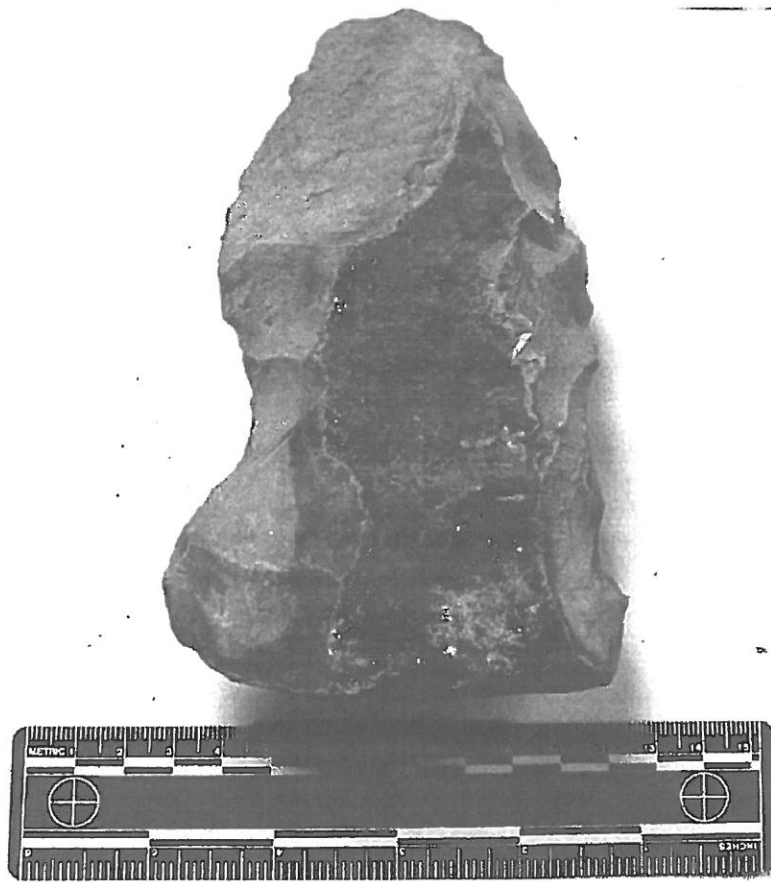


Figure 12. Isolated find. Expedient chipped stone axe with distal battering.